

Fundamental Research and Space Economy: the Italian strategy in the new High-Performance Computing, Big Data e Quantum Computing Research Centre

In the context of the Italian National Recovery and Resilience Plan (NRRP), the High-Performance Computing, Big Data e Quantum Computing Research Centre, created and managed by the ICSC Foundation, has been recently established as one of the five Italian “National Centres” to address designated strategic sectors for the development of the country, including simulations, computing, and high-performance data analysis, agritech, development of gene therapy and drugs via RNA technology, sustainable mobility, biodiversity. The focus of this specific National Supercomputing Centre is on maintenance and upgrade of the Italian HPC and Big Data infrastructure, as well as on the development of advanced methods and numerical applications and software tools to integrate computing, simulation, collection, and analysis of data of interest for research, manufacturing, and society, also through cloud and distributed approaches. In particular, in a hub-spoke set-up, the so-called “Spoke 2” is devoted to research at the frontiers of theoretical and experimental physics, mainly on experimental particle physics research, conducted with or without accelerating machines, as well as detectors studying gravitational waves, and more. The talk will present the organization and activity status of this spoke and elaborate on its scientific and technological contributions to the overall innovation ecosystem.

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